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Maxine Najle

University of Kentucky, maxine.najle@uky.edu

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Maxine Najle, Student

Dr. Will Gervais, Major Professor

Dr. David Berry, Director of Graduate Studies

DELICIOUS JUSTICE:
SCHADENFREUDE TOWARD ATHEISTS
BOUND FOR HELL

Thesis

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the
College of Arts and Sciences at
the University of Kentucky

By

Maxine Belén Najle

Lexington, Kentucky

Director: Dr. Will Gervais, Professor of Psychology

Lexington, Kentucky

2015

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ABSTRACT OF THESIS

DELICIOUS JUSTICE: SCHADENFREUDE TOWARD ATHEISTS BOUND FOR HELL

In the wake of the death of a prominent atheist figure in 2011, an especially unsavory side of anti-atheist prejudice became evident as many celebrated the death of a prominent atheist, rejoicing that he would be in hell. The current study explores how these attitudes reveal a sense of *schadenfreude* in anti-atheist prejudice previously unexplored in the literature. Potential origins of this *schadenfreude* are discussed, and a study to experimentally explore this phenomenon was carried out. Using the repeated taste-test paradigm, this study gave participants atheist primes and hell primes between identical drinks and measure perceived taste after these manipulations, intending for the hell primes to induce *schadenfreude* after atheist primes as a result from participants thinking about the atheists going to hell for their lack of faith. All predicted main effects and interactions were non-significant. Exploratory analyses were carried out to explain these null results. Implications and future directions are discussed.

KEYWORDS: atheism, prejudice, *schadenfreude*, disgust, implicit measures

Maxine B. Najle

April 20, 2015

DELICIOUS JUSTICE:
SCHADENFREUDE TOWARD ATHEISTS
BOUND FOR HELL

By

Maxine Belén Najle

Dr. Will Gervais
Director of Thesis

Dr. David Berry
Director of Graduate Studies

April 20, 2015

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Delicious justice: Schadenfreude toward atheists bound for hell

At that greatest of all spectacles, that last and eternal judgment how shall I admire, how laugh, how rejoice, how exult, when I behold so many proud monarchs groaning in the lowest abyss of darkness; so many magistrates liquefying in fiercer flames than they ever kindled against the Christians; so many sages philosophers blushing in red-hot fires with their deluded pupils; so many tragedians more tuneful in the expression of their own sufferings; so many dancers tripping more nimbly from anguish than ever before from applause... How vast a spectacle then bursts upon the eye! What there excites my admiration? What my derision? Which sight gives me joy?

-Tertullian, *De Spectaculis*

In order that the happiness of the saints may be more delightful to them and that they may render more copious thanks to God for it, they are allowed to see perfectly the sufferings of the damned. . . So that they may be urged the more to praise God. . . The saints in heaven know distinctly all that happens. . . to the damned.

-Thomas Aquinas, *Summa Theologica*, Volume 5

Chapter 1: Introduction

On December 15, 2011, Christopher Hitchens, known as one of the “four horsemen” of atheism, died from complications stemming from his esophageal cancer. Renown for his acerbic tone and antagonistic debates, he was one of the most famous (and infamous) self-identified atheists of our time. His death was met by many with the solemn praise reserved even for those largely polarizing and hated in life. Others spoke hopefully of a death-bed conversation for the outspoken anti-theist, but there were others still who celebrated his death in utter delight. One such article, enthusiastically titled “Christopher Hitchens is Dead. Praise The Lord!!!”, ended with the line, “Good Luck in Hell Mr. Hitchens, I’d send you some Evian Water, but I don’t know the address” (Danus, 2011). Others like Southern Baptist spokesperson Albert Mohler made ominous comments about his passing being “an excruciating reminder of the consequences of unbelief,” ostensibly suggesting that Hitchens’ death was caused by his atheism (Bohon, 2011)¹.

¹ The article adds that Mohler later clarified his remarks, suggesting he meant that anyone’s death is a reminder of the importance of adhering to Christian doctrine and belief. Though the clarification does not seem to fit with the implication of his original comments having been directed at the death of a prominent atheist, not just at anyone who passes, we might take into consideration that both remarks were made via Twitter.

The fervor surrounding Hitchen's death is one you don't often see with the passing of a vocal member of other religious out-groups and is usually reserved for enemies considered especially heinous (e.g., celebrations following the death of Osama bin Laden). Even the muted, more common reactions touting of Hitchen's finally "knowing he was wrong" about his religious convictions would be considered extremely rude and in poor taste. One can imagine what might happen if the death of the Dalai Lama were followed by an outpouring of non-Buddhists celebrating that at least now he knew he was wrong. This trend, then, does not seem to be implemented when dealing with religious outgroups in general, suggesting that there is something special about atheists that would bring out these affirmations and celebrations at their demise.

The following section will review the literature on attitudes towards atheists.

Antipathy toward Atheists

Atheists are an interesting and unusual group in that their group identifier is actually the lack of a group identifier. The comedian Ricky Gervais has commented this, noting that, "Saying 'Atheism is a belief system', is like saying 'not going skiing, is a hobby'" (R. Gervais, 2012). Despite this, in our society they are treated as a cohesive group. Research has found that people intuitively represent atheists as having starkly negative qualities (W. M. Gervais, 2013, 2014; W. M. Gervais, Shariff, & Norenzayan, 2011). Gallup polls have consistently found that atheists remain a highly disliked group, even as other stigmatized groups have had their negative ratings decline (Edgell, Gerteis, & Hartmann, 2006).

Edgell et al. (2006) collated many diverse polls of public opinion, analyzing people's endorsement of such statements as, "This group does not at all agree with my vision of society" and "I would disapprove if my child wanted to marry a member of this group." Atheists consistently scored highest in such measures—outranking homosexuals, Muslims, Hispanics, and African Americans—with 39.6% saying atheists disagree with the responder's vision of society and 47.6%

saying they would disapprove of atheists dating their child. Atheists scored higher than even Muslims in the post-9/11 climate on all of these measures. Edgell et al. suggest that the difference between atheists and the other groups is not merely this lacking belief in god. Rather, they say, “Americans construct the atheist as the symbolic representation of one who rejects the basis for moral solidarity and cultural membership in American society altogether.” The suggestion here is that because atheists lack a belief in a supernatural creator, they lack moral foundations that mark others as part of the cultural ingroup. Given how salient and vital categorization is for human interaction (Gaertner & Dovidio, 2005), being part of the outgroup can foster negative attitudes. Atheists’ lack of belief marks them as a huge “other,” with all the scary unknown qualities that that might elicit.

The data seem to support this interpretation. W. M. Gervais and Norenzayan (2012a) found that people behave in more socially desirable ways and have greater self-awareness when they are primed to think about God. If people who believe in God change their behavior when they are reminded of God, it follows then that those who do not believe would be seen as having no such change in behavior. If people believe that people behave better when they believe they are being watched by God, then they will think atheists behave worse than theists. This, too, bears out in the literature. In another study, W. M. Gervais et al. (2011) had participants rate homosexuals and atheists on distrust thermometers, finding that “importance of God in your life” predicted atheist distrust, but not distrust of homosexuals (Study 1). Participants in this paper also read a vignette of an untrustworthy individual and then gave their assessment of how representative the individual was of the following groups: Christians, Muslims, atheists, and rapists. The untrustworthy individual was judged as being more representative of an atheist than a Muslim or a Christian (Study 2). Furthermore, participants did not significantly differ in the degree to which they found the

individual representative of an atheist from the degree to which they found him representative of a rapist.

These results have been replicated for a variety of moral transgressions. W. M. Gervais (2014) gave participants vignettes of individuals committing such immoral acts as cheating, renouncing national and family ties, animal cruelty, serial murder, incest, necrobestiality, and cannibalism. Compared to groups such as Buddhists, Christians, Hindus, Jews, Muslims, Asians, African Americans, Hispanics, Native Americans, and whites, the vignettes of moral transgressions were consistently seen as more representative of the atheist than any of the other target groups. This was true even for atheist participants, suggesting that these attitudes are widespread and even internalized among those who identify as atheists.

Research by Gervais and colleagues has also explored the possibility of reducing antipathy towards atheists, finding that reminding participants of secular authority (W. M. Gervais & Norenzayan, 2012b) and highlighting prevalence rates of atheism (W. M. Gervais, 2011) reduced these sentiments. However, anti-atheists attitudes are resistant to some common prejudice-reduction techniques, such as simulated social contact. LaBouff (2014) presented results² of a prejudice intervention where he asked participants to imagine a positive interaction with an atheist. Though such interventions have been found to be effective at reducing implicit and explicit prejudice (Crisp, Stathi, Turner, & Husnu, 2009; Crisp & Turner, 2009; Turner & Crisp, 2010), LaBouff found that participants reported feeling incapable of imagining such an interaction with an atheist. Some participants offered such explanations as noting that because atheism is a concealable identity, the atheist must have said something crass or rude about their irreligion in order for the participant to be aware of the person's atheism, and thus, a positive interaction would be impossible following this outburst.

² Results not yet published, presented in a talk given at SPSP, 2014

Given the concealability of atheism and the stereotypes suggesting that atheists are untrustworthy and incredibly immoral beings, it is not necessarily surprising that the attitudes against them are so strong and so resilient against attempts at reducing them. These conditions help explain why the death of someone so intricately identified with atheism like Christopher Hitchens would be followed by such vitriolic and celebratory comments. That being said, understanding the origins of anti-atheist prejudice is necessary, but insufficient in understanding the nature of these comments following Christopher Hitchens's death. There are endless lists of disliked groups, with endless justifications for their dislike, but few are met with the unrestrained glee at such horrible fates as is the case here. What could compel someone to revel at the thought of eternal damnation that will be suffered by another individual? In order to understand this aspect of anti-atheist feelings, we must consider the research done on *schadenfreude* and outgroups.

Schadenfreude and Outgroups

Schadenfreude, the feeling of pleasure that accompanies the misfortunes of a disliked person or group, is a well-studied phenomenon. According to Smith, Powell, Combs, and Schurtz (2009), there are three main explanations for or paths to *schadenfreude*. The first explanation is for when an individual stands to gain from the misfortune causing the pleasure (e.g., zero-sum competitions). The second is that *schadenfreude* often results from misfortunes that are believed to be deserved (i.e., knocking someone down a peg). The third explanation is *schadenfreude* accompanies feelings of envy, providing pleasure when an envied individual faces misfortune. The *schadenfreude* a theist might feel toward an atheist burning in hell for all eternity fits with at least two of these explanations and potentially all three of them.

If we consider the example of Christopher Hitchens, we can explore how these elements of *schadenfreude* might relate to atheism. The first explanation does not seem to fit, initially, as it may not immediately be clear how the condemnation of an atheist would yield any personal gain for a theist.

However, the personal gain does not have to be on an individual level; inter-group competition yields *schadenfreude* as well (Cikara, Botvinick, & Fiske, 2011; Cikara, Bruneau, & Saxe, 2011; Cikara & Fiske, 2011, 2012; Leach & Spears, 2008, 2009; Leach, Spears, Branscombe, & Doosje, 2003).

Theists and atheists are in a zero-sum competition of moral beliefs; either there is a supernatural creator who will punish those who don't believe, or there isn't. Thus, if an atheist is in fact facing eternity in a hell that a theist believes in, then the theist's ingroup has won, and, by virtue, has personally gained from the divine misfortunes of the atheist. Ultimately, this has an added bonus of meaning that not only was the atheist wrong, but the theist was right and will now reap the benefits of being right: eternity in heaven.

Additionally, it is important to consider social comparisons when discussing this path to *schadenfreude* for theists. When dealing with valued attributes, people prefer to engage in downward social comparisons, especially in socially relevant spheres (Thomas A Wills, 1981; Thomas Ashby Wills, 1991). For theists thinking about atheists, religious belief and doctrine—highly valued attributes—become more salient and relevant dimensions for comparisons. Thus, if the theist thinks about the atheist burning in hell, the theist deems their position the correct one, fostering a positive sense of self at the downward social comparison. This positive sense of self can only come from coming to the conclusion that atheists are wrong and the theists themselves are right, thus explaining why imaging atheists in hell could be a very positive experience for some theists.

In terms of the second explanation, the belief that atheists are elitists and arrogant is widespread, especially when discussing the “four horseman.” In fact, when Christopher Hitchens first announced that he had been diagnosed with esophageal cancer, there were many who took to social media to express their belief that his cancer was well-deserved for his lifetime of blasphemy and hatred toward the Christian God. Again, this sense of deserving of this punishment fits with the second path to *schadenfreude*. To theists abiding by scripturally-sanctioned moral codes of conduct,

the perception that atheists are “getting away with” their lack of belief might be common and may feel like an injustice. When coupled with tangible misfortunes in this world, *schadenfreude* would be expected, as seen with Hitchens. When coupled with divinely sanctioned misfortunes, as is presumed when theists consider the prospect of atheists in hell for all eternity, then *schadenfreude* would be especially expected.

The third explanation deals with *schadenfreude* when the target of the misfortunes is also the target of envy. This path to *schadenfreude* has been well established and widely discussed (Feather & Sherman, 2002; Smith et al., 1996; Takahashi et al., 2009), but a connection between disdain for atheists and envy toward atheist has not yet been empirically established. However, it would make sense that a theist might envy an atheist’s freedom to indulge in hedonistic and enjoyable, yet sinful, behaviors, with the assumption that they are outside of the purview of an overseeing god.³

Indeed, much of the modern conception of hell is readily interpreted using *schadenfreude*. Hell is touted in scripture as inhibiting sinful behavior by appealing to this fear of eternal punishment, but there is also a sense of just comeuppance. Taking even the examples from literary works such as Dante’s *Inferno*, we see a painstaking effort to make the punishment of the sins befitting of the crime, invoking a sense of irony and deservedness. This again is in line with the second path to *schadenfreude*. Given how much Dante’s hellish imagery has permeated modern society’s conceptions of hell, it is not surprising to think that imagining hell would make those with extremely negative attitudes towards atheists quite pleased. However outspoken some from the fringes may be in the safe confines of increased anonymity on the web, these phenomena will likely prove more difficult to observe in lab. For this, we must consider the intricacies of studying socially undesirable behaviors.

³ The author is currently working with Richard Smith and Will Gervais on a line of research to establish whether anti-atheist prejudice has an invidious component.

Studying socially repugnant behaviors

Often with issues of prejudice, it is difficult to assess the nature, scope, and makeup of such beliefs, because they are considered taboo and socially undesirable (Crosby, Bromley, & Saxe, 1980; Dovidio & Gaertner, 1986; Gaertner & Dovidio, 1986; Katz, Wackenhut, & Hass, 1986; Plant & Devine, 1998). Given these concerns, much thought must be given to how one assesses explicit negative attitudes toward a group. Though atheists remain fairly maligned in society, social desirability issues may still influence willingness to answer truthfully on measures simply asking participants about their anti-atheist feelings.

For this reason, implicit measures are sometimes used to gauge anti-atheist prejudice. Such was the case in Ritter and Preston (2011) who implemented a novel task called the repeated taste-test paradigm to measure negative affect toward religious outgroups in a Christian sample. This task involves participants tasting two identical lemon-water solutions with a prime between them, comparing the second taste to the first. In their study, they told participants that they were taking part in a marketing study to compare two different drinks, with a supposed second study about handwriting samples run in the middle to function as a distractor task. In between the two drinks, which were actually identical, they gave participants a paragraph to hand copy for the second study, varying the paragraph's content by condition. Participants either read a passage from the Qur'an, Richard Dawkins' *The God Delusion*, or a control passage (a passage from the dictionary).

Because the drinks in both instances were a mixture of just lemon juice and water, they should have been fairly disgusting to the participants, but because they are identical, the disgust induced by them should have been about the same. However, they found that when participants had to read texts representative of a rejected belief system, they found the second drink to be significantly more disgusting. The authors concluded that the feelings of disgust participants felt toward atheists and Muslims were displaced onto the second drink, allowing the researchers to

measure these negative attitudes that would potentially not be stated in self-report questionnaires or other explicit measure of prejudice. Using this paradigm, I brought participants into the lab with the expectation of more accurately measuring their levels of *schadenfreude* at the thought of an atheist meeting the ultimate misfortune: burning in hell for all eternity.

Current Study

The present study expanded on Ritter and Preston (2011), focusing on negative reactions to atheist passages and adding hell primes after the passages in an attempt to induce *schadenfreude* in participants. Using Ritter and Preston's repeated taste-test paradigm, I attempted to gauge whether the atheist passage produced more disgust than a control passage (replication of their findings), and then if the hell primes following this would induce positive affect due to a sense of *schadenfreude*. The addition of the hell prime required a third drink to measure the effects of the primes on affect. Moreover, since the affect I was ultimately trying to produce was of pleasure (as opposed to disgust, as in the original), I added sugar to the lemon-water solution to make the differences easier to detect. The present study theoretically allowed me to experimentally induce *schadenfreude* in theist participants with the repeated taste-test paradigm, allowing for more accurate assessment of this phenomenon than a self-report of *schadenfreude* would have.

For the current study, I predicted the following:

1. Participants in the atheist condition would rate the second drink as less delicious than the first drink, as compared to the control.
2. Participants in the atheist condition would rate the third drink more delicious when in the hell prime condition, as compared to the control prime.
3. Participants in the atheist condition would rate the third drink as more delicious when in the hell prime condition, as compared to their second drink.

Chapter 2: Methods

Participants

Because the effects of my subtle manipulations were likely to be small, I aimed to run a large number of participants for the study. As a minimum, I had aimed to recruit 75 participants per cell ($N=300$), and I preregistered this amount on OpenScience. However, due to limitations in the subject pool as well as a number of weeks of school closures caused by bad weather, this benchmark was not met by the time the data had to be organized and analyzed. Ultimately, a total of 171 participants were recruited from the UK subject pool. Of these, a number had to be dropped because the participant had incomplete data, withdrew from the study, or guessed that the drinks were identical across conditions, leaving a total of 165 (77.44% female) participants included in the analyses, roughly 41 per cell. Results based on these participants should be considered provisional.

Procedure

A modified replication of Ritter and Preston (2011) was conducted, with the conditions limited to the atheist related conditions for the scope and power considerations given the sample size that would be reasonable to expect from this study. I implemented the repeated taste-test paradigm from Ritter and Preston (2011) using a sweet drink (lemon juice, water, and sugar) as the target drink. Participants were told they were participating in a marketing study for three different drinks, which were in reality all identical.

The design of the study was a mixed design, with the repeated taste testing being within-subject and the rest of the conditions being between. Participants received either an atheist passage or a control passage (Full text in Appendix A) between drinks one and two. Following the second drink, participants read were primed a second time with one of two other passages. This passage

was either be about a geological drill breaking through to what seems to be hell (hell prime) or about the conditions of the earth's core (magma control passage) (Full text in Appendix B).

In total, participants completed three taste tests; immediately following these tastes, participants answered a series of questions about the drink. These questions were used to gauge how delicious the drink is considered after each manipulation (Full text in Appendix C).

Instructions accompanied the atheist/dictionary and hell/magma primes to explain that they are being used as “palate cleansing” distractor tasks so they could distinguish between the three drinks.

As if often the case for primes that may trigger mortality salience, I gave the participants an affect measure (PANAS, Appendix D) for how they were feeling immediately after the primes (Watson, Clark, & Tellegen, 1988). This was to assess affect after each passage to rule out potential confounds with negative affect.

Additionally, I included a religiosity scale for exploratory purposes. Research has shown that different types of religiosity play roles in different prejudices (Johnson, Labouff, Rowatt, Patock - Peckham, & Carlisle, 2012; Johnson et al., 2011), and specifically that anti-atheist prejudice is related to religious fundamentalism (LaBouff, 2014). For this reason, I included a short religious fundamentalism scale (Revised 12-Item Religious Fundamentalism Scale, Appendix E) to explore the links between this fundamentalism and *schadenfreude* at an atheist burning in hell (Altemeyer & Hunsberger, 2004).

Design

The current study called for a mixed factorial design, with taste tests being within subjects and the remainder of the conditions being between subjects. The overall design was a 2 (atheist vs control) x 2 (hell vs magma) x 3 (within-subject tastes). The within-subjects manipulation allowed for a great deal more power than a between-subjects manipulation would have.

Chapter 3: Results

Predictions

A 2 x 2 x 3 mixed factorial ANOVA was used to analyze the effects of the manipulations.

Figure 1 summarizes the expected results for the conditions in the study. If the F test were significant, sensible pair-wise comparisons would be run to test the original hypotheses laid out at in this paper.

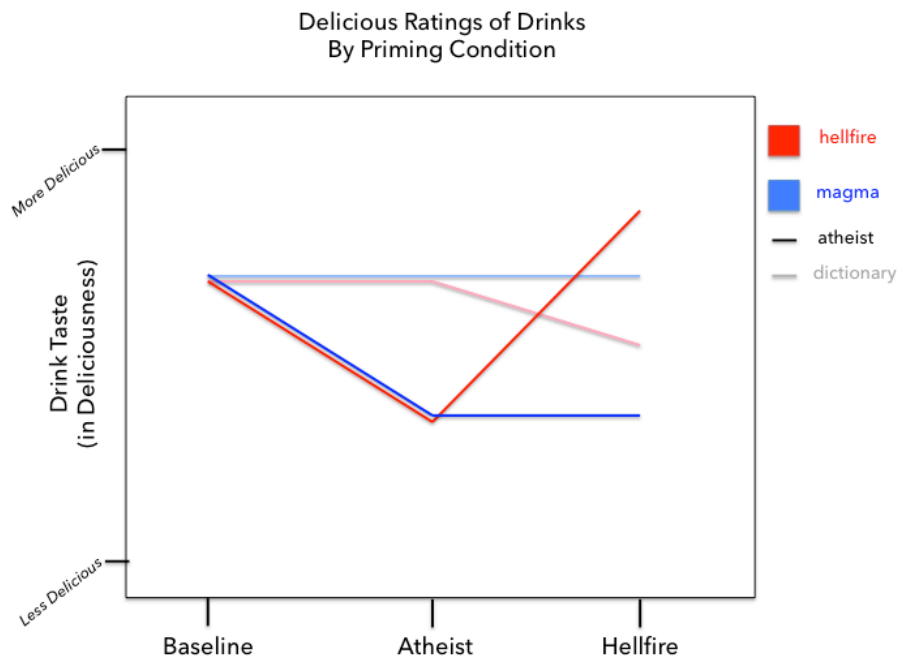


Figure 1: Expected Results for Each Condition

Specifically, for these pairwise comparisons, I had expected the following:

1.
 - a. In the atheist condition, the average rating of the second drink would be less delicious than the average rating of the first drink.
 - b. The rating of the second drink would be lower in the atheist condition than in the control condition.

2.
 - a. In the atheist condition, the third drink would be rated as more delicious than the second drink.
 - b. The third drink in the atheist condition would be rated more delicious than the third drink in the control.
3.
 - a. In the atheist condition, the third drink would be rated as more delicious by participants in the atheist hell condition than participants in atheist magma condition

The PANAS was included as a manipulation check for the negative emotion inducing conditions. If the participants in the atheist + magma conditions and the control + hell conditions were not experiencing negative affect, then the design and/or materials should be considered flawed.

Planned Analyses

The overall design involved a 2 (Atheist vs. Control passage) x 2 (Hell vs. Magma passage) x 3 (Drink number, within subjects) mixed methods ANOVA. To test this interaction, I ran the 2 x 2 x 3 mixed methods ANOVA. The overall 2 x 2 x 3 interaction was not significant [$F(2, 322) = 1.056, p = 0.3489$], nor were the main effects for the Atheist vs. Control passage [$F(1, 161) = 1.004, p = 0.3177$], the Hell vs. Magma passage [$F(1, 161) = 0.8348, p = 0.3623$], and drinks [$F(2, 322) = 0.3442, p = 0.7091$]. There were no significant interactions between the Atheist/Control and Hell/Magma conditions [$F(1, 161) = 2.335, p = 0.1285$], between Atheist/Control and drink [$F(2, 322) = 1.056, p = 0.3489$], or between Hell/Magma and drink [$F(2, 322) = 2.950, p = 0.0538$]. These results held even when I looked at the second and third drink with the baseline as a covariate.

The code I used (Appendix G) defaults to testing for sphericity. Each of the interactions violated assumptions of sphericity, but correcting for this did not affect the results ($ps > .05$).

The overall pattern of results for drink deliciousness ratings are given in Figure 2 and Figure 3. The ratings for the first drink give the baseline ratings, before any priming passages were presented. The ratings for the second drink correspond to the ratings of the drink administered after being primed with their given Atheist/Control passage. The ratings for the third drink correspond to the ratings of the last drink, given to them after their given Hell/Magma passage.

Figure 3 displays the same data from Figure 2 in a more digestible way, separating the second passage conditions onto two panels. The code for this graph also allowed for error bars to be displayed, which was not possible with the code used for the graph in Figure 2.

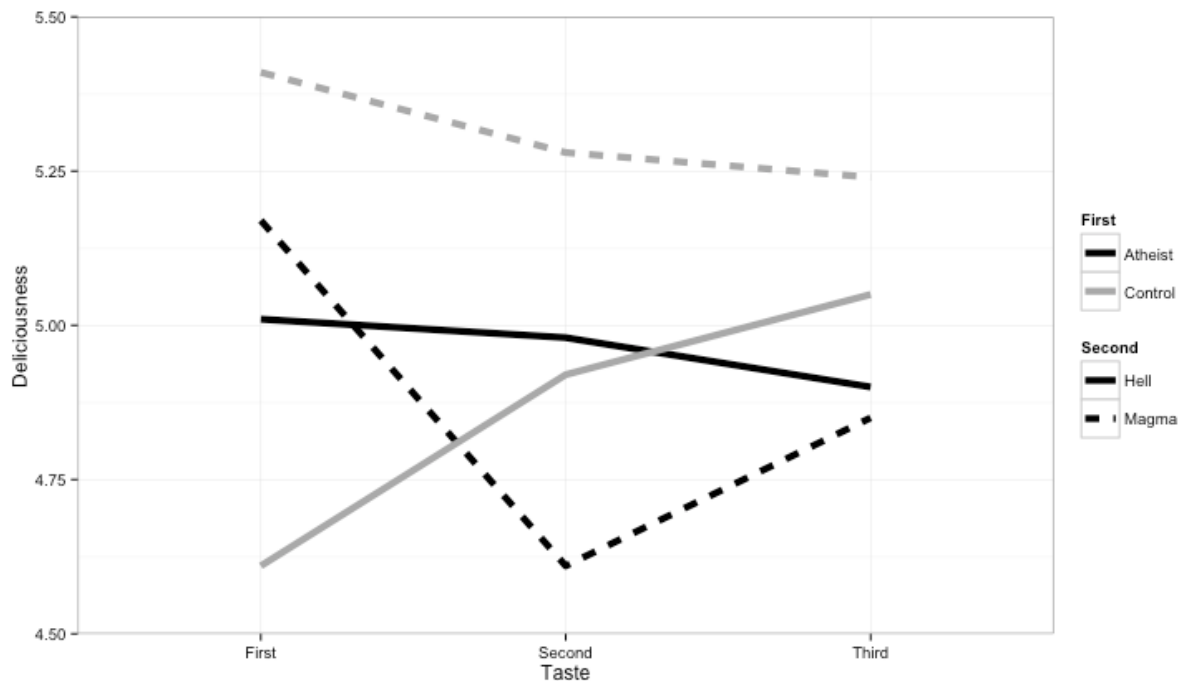


Figure 2: Overall Effects of drink ratings for deliciousness (1-7).

Black lines indicate participants given the Atheist passage, grey lines those given the Control passage. Solid lines indicate participants given the Hell passage, dotted lines those given Magma passage. Black dotted lines indicate those with Atheist and Magma passages, grey dotted lines indicate those with Control and Magma passages, etc.

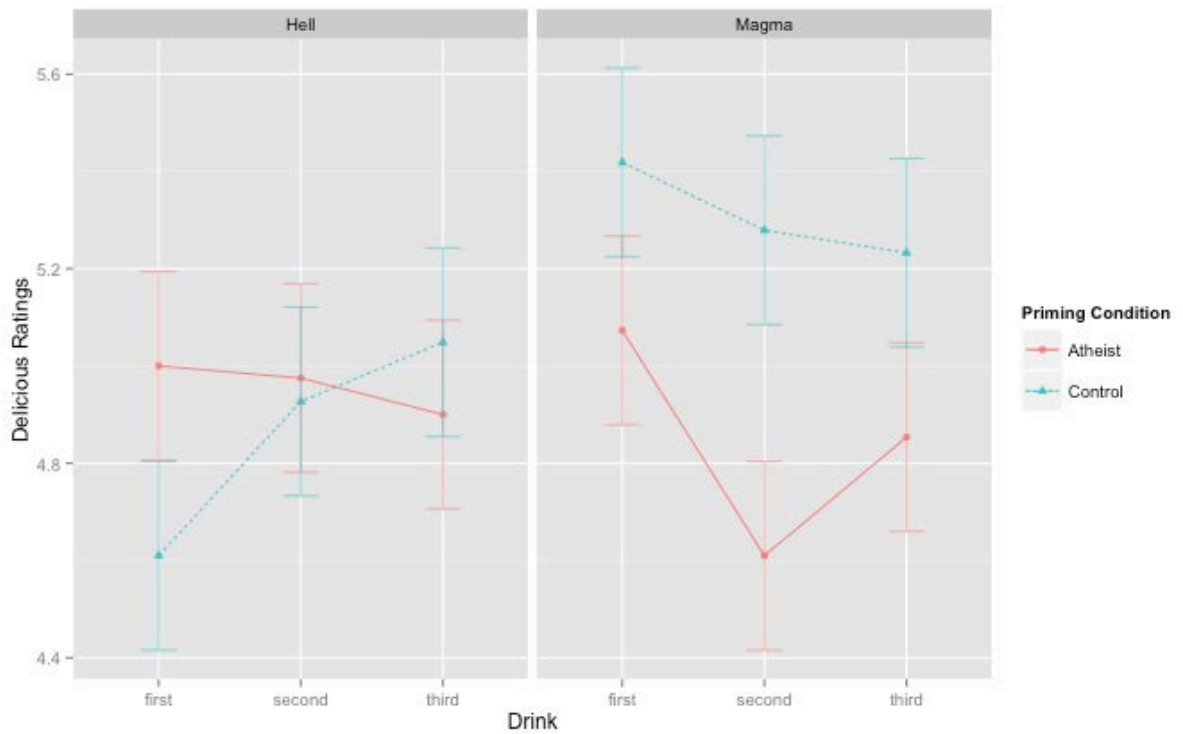


Figure 3: Panelled Overall Effects of drink ratings for deliciousness (1-7).

The panels separate the Hell and Magma prime conditions, with the lines representing the Atheist and Control prime conditions for each panel.

As none of the predicted interactions yielded significant results, I did not conduct the planned contrasts for these conditions, though the code for them is included in Appendix G. In order to understand why the predictions did not pan out, I ran a series of exploratory analyses.

Exploratory Analyses

Aggregate Ratings

Because the original Ritter and Preston study analyzed only ratings of disgust following each passage and beverage, I only planned analyses for the deliciousness ratings from my sample. However, I included a number of other ratings in addition to this rating in order to make the participants believe the study was truly a marketing study. These additional ratings were how

disgusting the drink was, how refreshing it was, and how much they would prefer it to water on a hot day (full text given in Appendix C). As an exploratory analysis, I averaged these four ratings (disgusting: reverse scored) and performed the same analyses as on the single rating. Again, this ANOVA yielded no significant results. The overall patterns are given in Figure 4. As this different scoring system yielded no useful differences, the remaining exploratory analyses use my original single-item drink rating as a dependent variable, wherever taste ratings are discussed.

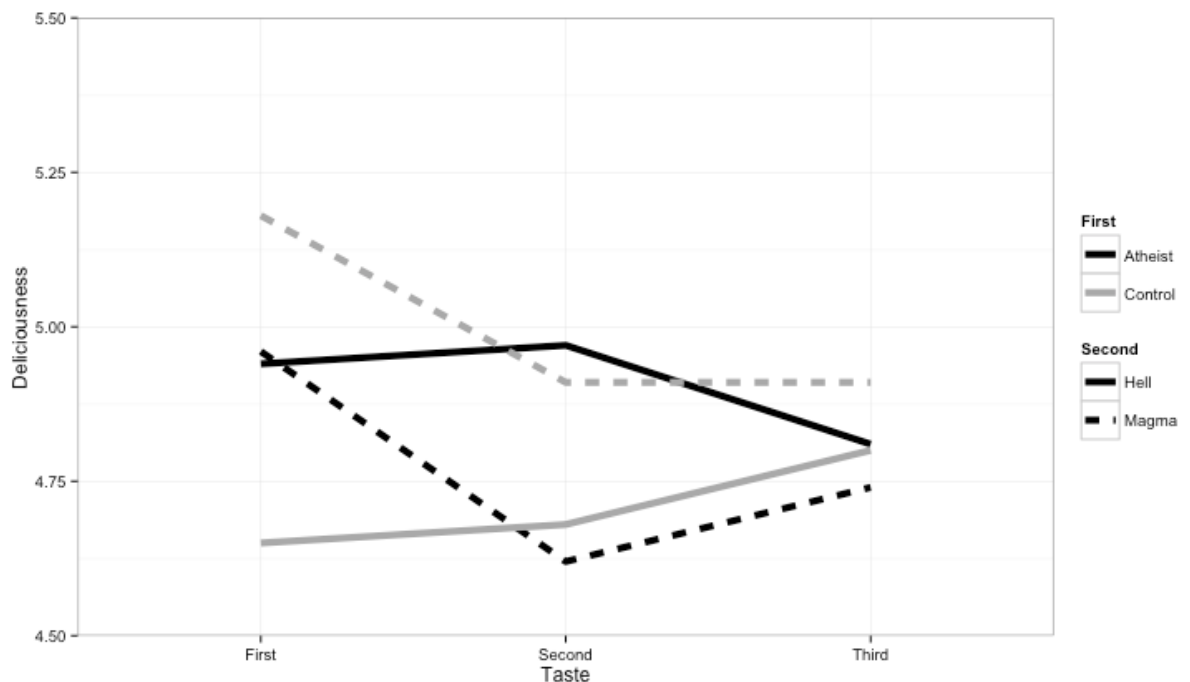


Figure 4: Overall Effects of aggregate drink ratings for deliciousness (1-7).

Negative Affect

After each drink rating, the participants completed the PANAS for their current mood. To assess if the passages induced the expected differences in negative affect, I performed a 2 (Atheist vs. Control passage) x 2 (Hell vs. Magma passage) x 3 (Drink number, within subjects) mixed methods ANOVA on negative affect ratings, yielding significant results for two effects: a main effect

for drink number [$F(2, 322) = 4.263, p = 0.01488$], and an interaction between Atheist/Control and drink number [$F(2, 322) = 6.196, p = 0.0022$]. The overall effects for negative affect are given in Figure 5.

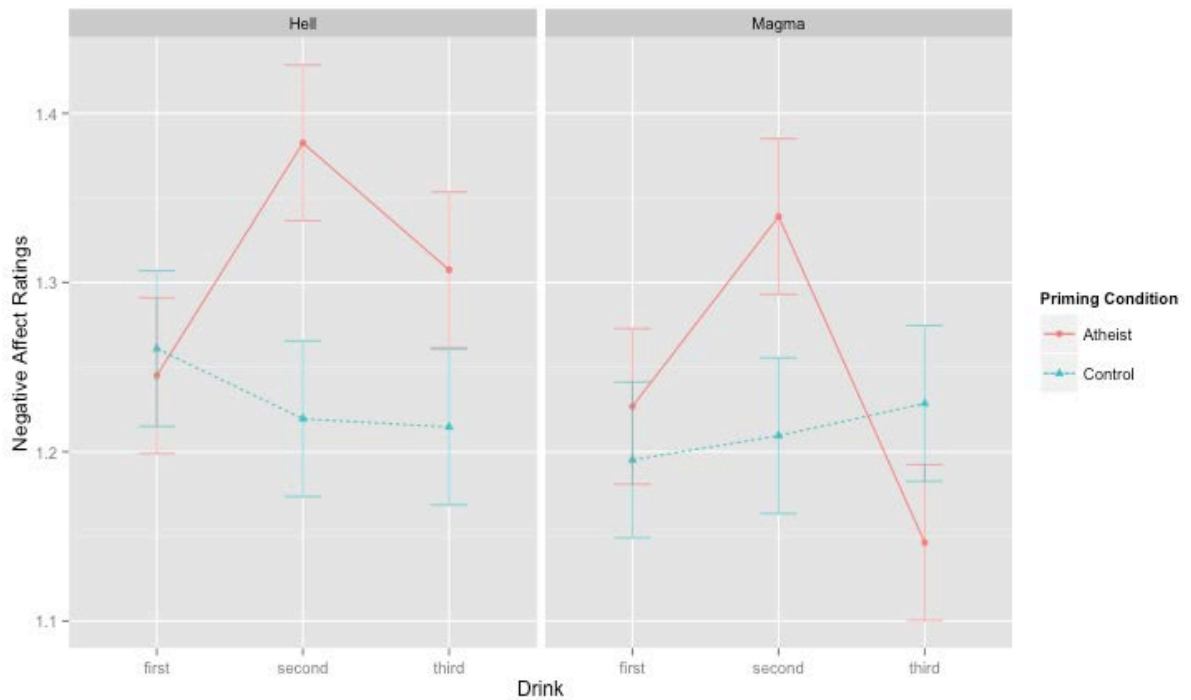


Figure 5: Negative Affect ratings for each drink.

From the graph, the main effect for drink number seems to be driven by a spike in negative affect after the second drink. This effect appears to be moderated by the Atheist/Control condition, where participants who received the atheist passage experienced greater negative affect after this passage than did the participants who received the control passage. This spike suggests that the atheist passage accomplished what it was designed to do, ostensibly eliciting feelings of dislike towards atheists.

The negative affect followed more or less the pattern I would expect, with the Atheist passage inducing higher levels of negative affect compared to the baseline. As predicted, the overall negative affect after the third drink decreased. However, the difference in this rating for the Hell vs.

Magma condition was not as predicted. Rather than decreasing negative affect by inducing Schadenfreude, as was the main purpose of this study, the Hell passage decreased negative affect less than the Magma passage did. The Magma passage was designed to be a control condition to for the Hell passage. Thus, the Magma passage ratings show the natural decay of negative affect after reading another passage and/or letting enough time pass after thinking about atheists. Given that the Hell passage did not allow negative affect to reach the control's third rating or even return to baseline, the Hell passage appears to have induced negative affect of its own. Interestingly, the negative affect induced by thinking about Hell is less than that induced by thinking about Atheists.

Positive Affect

To be thorough, I also analyzed the changes in positive affect. For this 2 x 2 x 3 ANOVA, only the main effect of drink number was significant [$F(2, 322) = 17.66, p < .00001$]. The overall

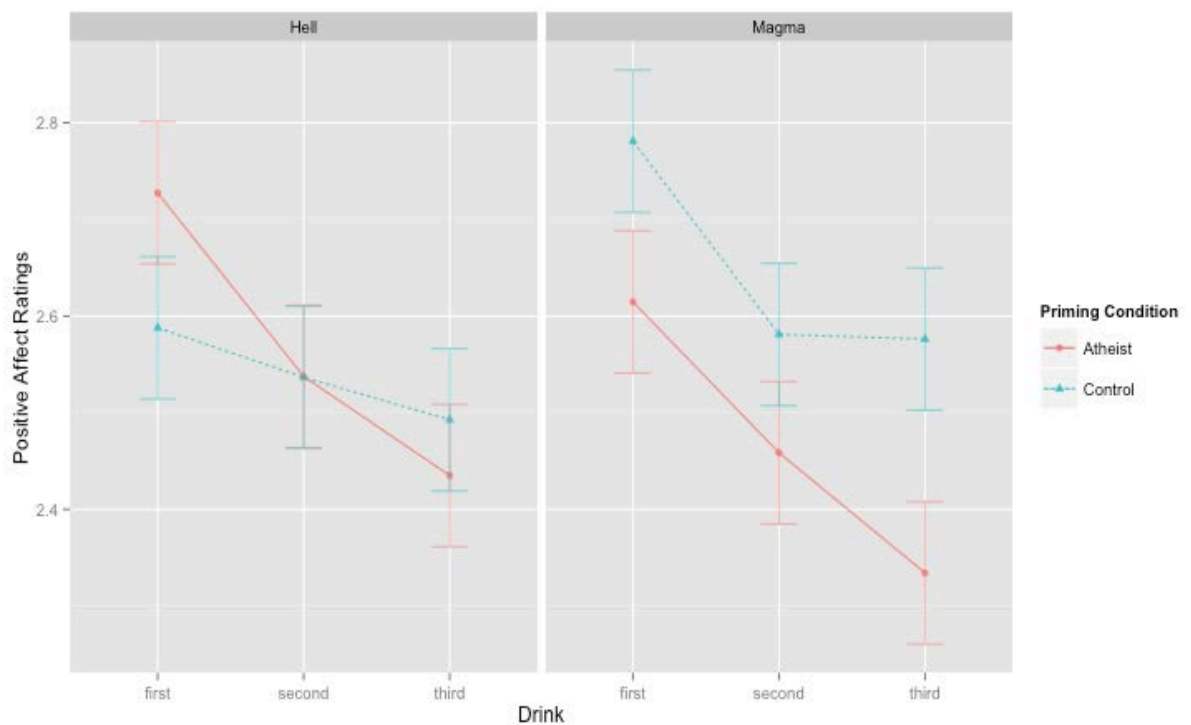


Figure 6: Positive Affect ratings for each drink.

results are given in Figure 6. Judging from the graph, the main effect appears to be driven by a steady decline in positive affect for all conditions. This decline is, presumably, a fatigue effect, given that the positive affect subscale of the PANAS includes items about levels of interest and excitement.

Religious Belief Differences Across Condition

In order to rule out any potential issues with levels of religiosity differing between the conditions, I used a generalized linear model predicting belief in a god or gods (0-100) from the two conditions and their interaction. No main effects or interactions were significant. This null finding is not terribly surprising, considering the religious makeup of the sample (Figure 7). Religious belief has a skewed bimodal distribution, with the majority of participants reporting their belief as 90-100. By the lack of variance, and the violation of normality assumptions, belief in god(s) cannot yield any meaningful significant results.

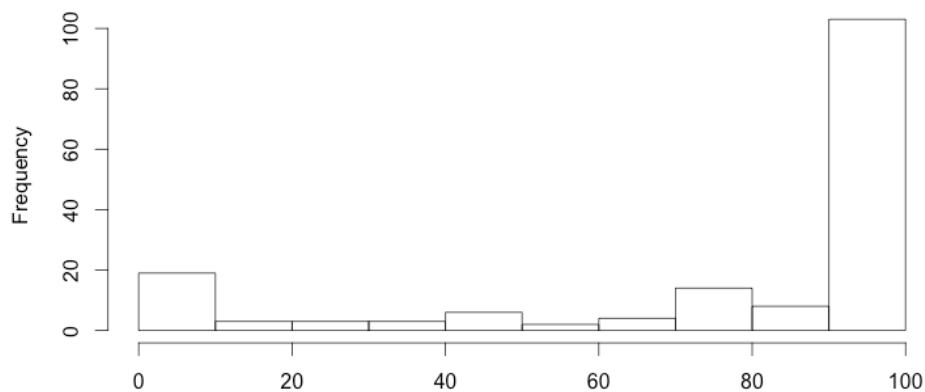


Figure 7: Distribution of Belief in a God or Gods (0-100).

Due to the lack of significant effects for the overall ANOVA and manipulations of interest, the Religious Fundamentalism scale included after the participants tasted all three drinks was not analyzed for its original exploratory purposes.

Gender Effects

I did not make any predictions about gender differences in this study's manipulations. The drink ratings graphs from before are given again in Figure 8 and Figure 9, but split by gender. Given the gender distribution of my sample, it is not surprising that the females' overall ratings resemble the total sample's overall ratings more closely than do the males' overall ratings. The differences between genders seem to be predominantly in the magma conditions. However, given that differences in these ratings occur mostly in ratings 1 and 2—before the magma passage is read—it seems most logical to assume these differences are more likely due to noise than to meaningful gender differences.

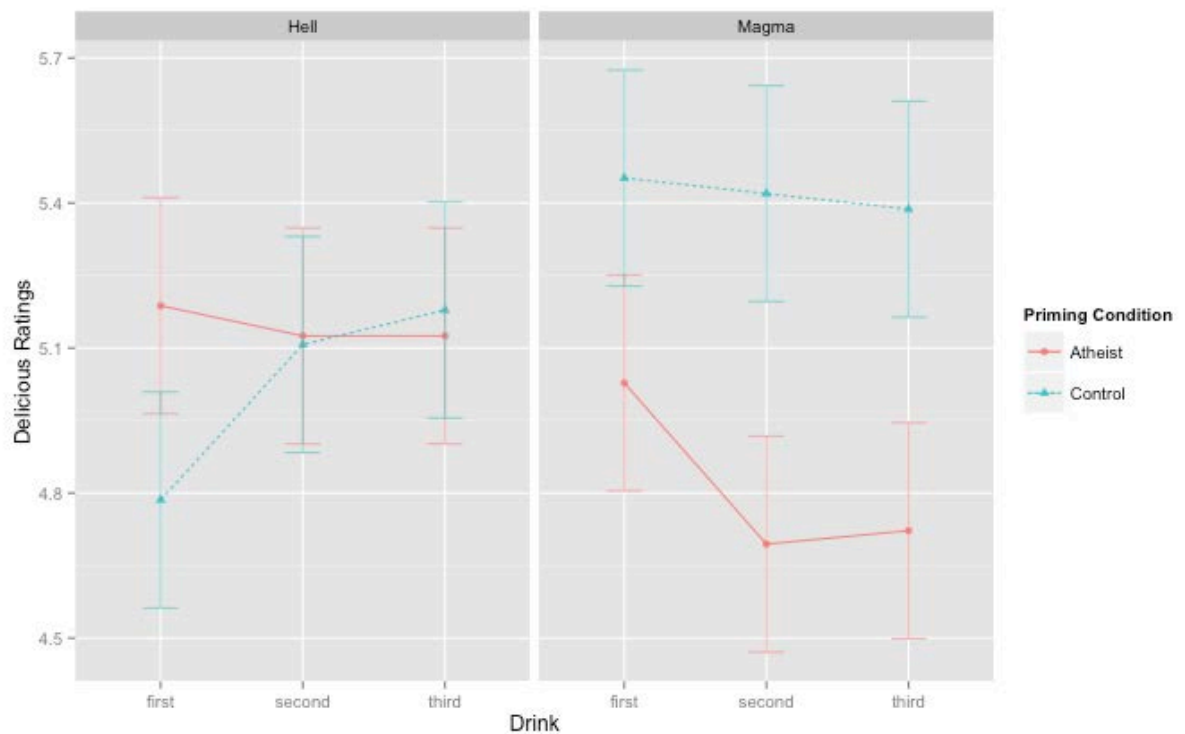


Figure 8: Delicious ratings for each drink for Females only.

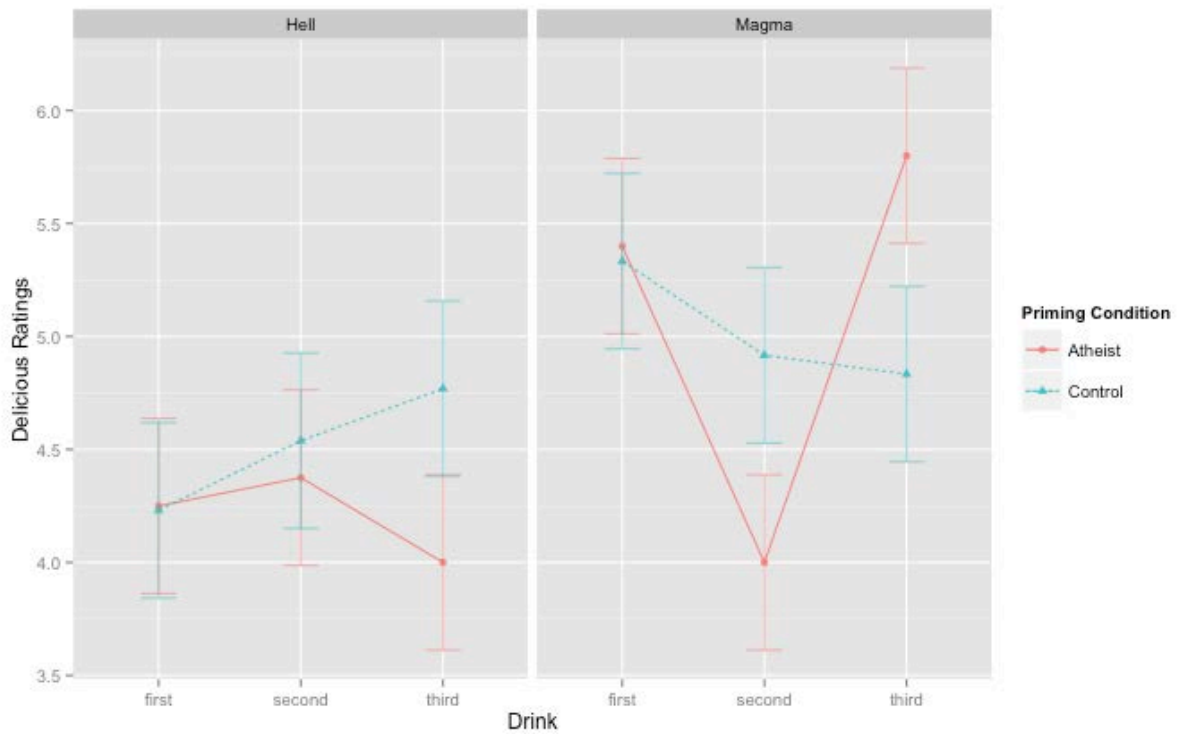


Figure 9: Delicious ratings for each drink for Males only.

Ritter and Preston (2011) Comparison

The crux of the present study was the study on which it was modeled, Ritter and Preston (2011) study on religious out-groups and disgust ratings. At its core, this study was a replication and expansion of that study. Dropping the third drink and looking only at the baseline compared to the Atheist/Control conditions, the effect in this study should replicate Ritter and Preston's findings. In their study, they found that participants rated the drink as significantly more disgusting after reading about atheists. In this study, I measured delicious ratings and administered a sweet drink instead, but the basic effect should be, in principle, the same. A 2(Atheist vs. Control) x 2(Drink 1 vs. Drink 2) ANOVA yielded no significant results. The interaction, however, was marginally significant [$F(1,163) = 3.466, p = 0.0644$]. The overall ratings for these four conditions are given in Figure 10.

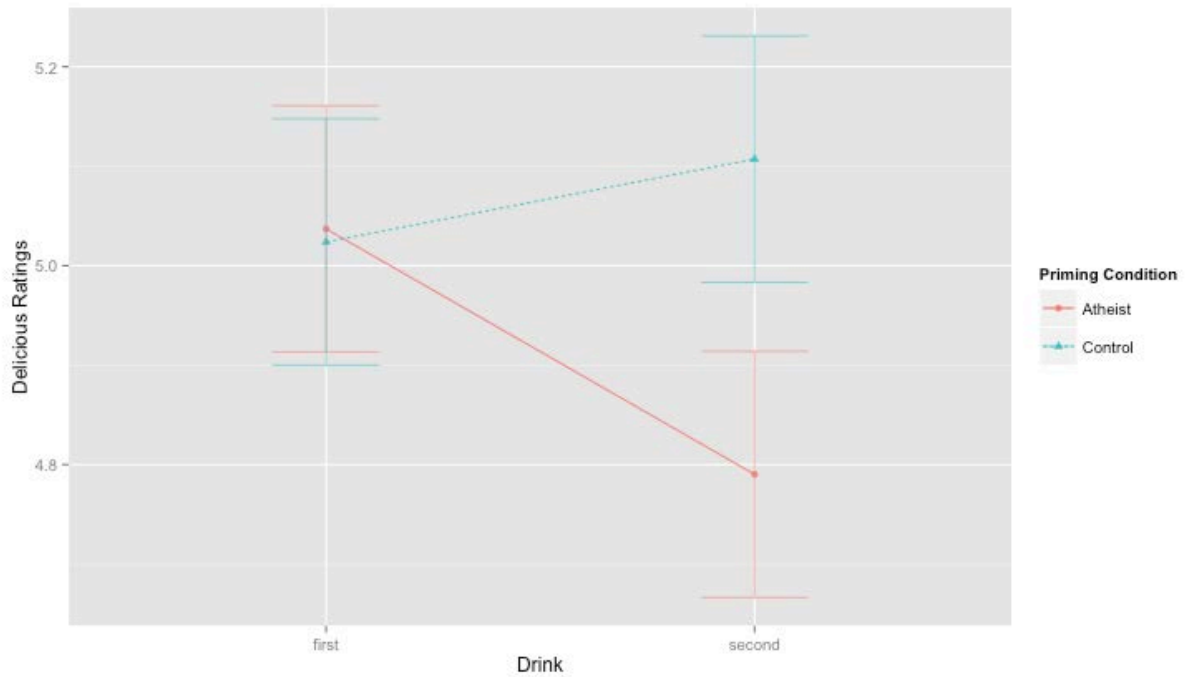


Figure 10: Ratings for Drinks 1 and 2, a functional replication of the design in Ritter and Preston (2011).

Though there were no significant effects in this analysis, the trending interaction and the overall ratings indicate that the original effect might be very nearly replicated in the present sample. The switch from sour drinks and disgusting ratings to sweet drinks and delicious ratings might have diminished the variance in responses. For instance, it may be easier to express perceived differences in levels of disgust than in levels of deliciousness. Another possibility is that the drinks in my study were more delicious than the original drinks were disgusting, or vice versa. This difference could influence the variance in ratings in such a way that might explain my lack of results.

Moreover, the original sample size I had aimed to collect was 300, about 75 participants per condition. Because of the constraints of the sample size during the semester the data were collected, I fell short of this goal by just over half. Given this, my intended power could not have been reached, potentially explaining why the results failed to replicate and expand on the original paper. That being said, the original paper had a total sample size of 82, about 27 per condition (Study 1). If

my current study is underpowered to detect this effect with about 40 per condition, I might encourage caution when interpreting the results of the original study. However, other important and unidentified moderators might exist that explain the difference in the two samples (e.g., population differences).

Ultimately, because I intended to run at least 300 participants, data collection will continue on this project beyond the Master's defense. When the other half of the participants are run, the marginal interaction of the replication has a chance of becoming properly significant, as do the rest of the predicted effects.

Chapter 4: Discussion

The analyses and discussion of results in this paper should be considered provisional. They assume a complete sample, as originally intended, but because of the constraints of the semester's subject pool, the weather-related closures, and degree deadlines, this was not fulfilled. As such, the results are subject to change when the full sample is run and the dataset is finalized. It is also worth noting that the results might stay exactly the same in a practical sense, with no analyses yielding statistically significant results.

Setting aside their conditional nature, these results failed to support any of my initial predictions. My attempt was to induce *schadenfreude* by priming participants with thoughts of atheists followed by thoughts of hell. Compared to each of the controls, however, the drink taste ratings—the indirect measure of *schadenfreude* in the study—were not significantly higher for participants in the atheist prime condition after the hell prime as compared to the magma prime.

Null results are difficult to interpret accurately, especially in a situation like this one where the desired power was not achieved due to sample size issues. One possible interpretation is that the original study by Ritter and Preston was a false positive. A study's temporal relationship to other

studies has no bearing on its relative accuracy; there is no reason to think that a positive finding that comes before a null replication is more accurate than the null finding simply because the positive finding came first (Vazire, 2015). As I discussed in the results section, the marginal significance of the effect that most directly replicated Ritter and Preston's original study suggests that the original was not a Type I error. As is nearly always the case with null results, I cannot definitely answer questions about the original study or the real world effect with my current data.

Another possibility is that the original prediction was wrong, and theists do not find pleasure in thinking about atheists receiving divine punishment in hell for their sins against their given god. The examples of this exact behavior that I gave in the introduction seem to show that at least some theists *do* experience this pleasure. Thus, perhaps rather than the original prediction being an incorrect one, the scope was simply too broad. If this were the case, then the null results might be due to a sampling issue. The theists I sampled might not be representative of the true target population for this prediction, which would be theists such as Southern Baptist spokesperson Albert Mohler and the Christ Wire's Bruce Danus (Bohon, 2011; Danus, 2011).

A third possibility is that the prediction and sample were appropriate, but the measures were not. The primes were intended to induce thoughts of atheists and then atheists in hell, but they might not have succeeded in doing so. Instead, the primes might have simply elicited feelings of anger and disgust toward the atheists in that condition, and then, in the hell condition, elicited mortality salience completely divorced from their previous feelings towards atheists. It might be that the atheist prime actually primes blasphemy, not atheism specifically. Though atheism is likely seen as a form of blasphemy for some, it does not necessarily follow—even for those for whom this is true—that the reverse (that blasphemy is a form of atheism) is true. Alternatively, the primes might have done exactly what they intended to, but on too subtle a scale to detect. If this were the case, then future studies attempting elicit feelings of *schadenfreude* will have to be much more direct

and overt in this effort. Rather than relying on participants to make the appropriate connections with subtle primes, a future study could explicitly describe the fact that theists believe that atheists will go to hell or that the Bible explicitly says as much. Though the initial reason for using the primes instead of explicitly stating the desired thoughts was to avoid social desirability concerns, it may be that this went too far in the opposite direction. More overt and explicit stimuli might yield the expected results.

The ultimate, long-term goal of studies like this one is to understand the intricacies of the vitriolic sentiments many still publicly hold toward atheists in America. If we can understand the mechanisms at play, we can work to combat and alter these attitudes. Though this project did not definitively answer any questions that would aid in this goal, it did highlight a couple of avenues that are seemingly not worth pursuing. Assuming the complete results end up similar to the ones discussed in this paper, this study showed that the primes used here are not ideal for eliciting feelings of *schadenfreude* from the thoughts of atheists in hell. Future endeavors should focus on using less subtle manipulations in order to achieve these feelings of *schadenfreude* in the laboratory. If there is in fact an element of *schadenfreude* that contributes to antipathy toward atheists, then we could implement empathy-based interventions to attempt to mitigate these sentiments. As a lofty goal, maybe we can make the world a place where when an atheist leaves it, there are fewer people celebrating.

Appendix A - Religious Outgroup Primes

Instructions

To give your palate a break to reset, we will use a common method of distractor task. You will be given a short passage and a piece of paper. You will copy the passage to the new paper, word for word, in legible handwriting. Following this, you will complete a second distractor task.

Passages

Each participant will be randomly assigned to one of the following. They will be asked to copy the passage as their filler task.

Atheist

The God of the Old Testament is arguably the most unpleasant character in all fiction: jealous and proud of it; a petty, unjust, unforgiving control freak; a vindictive, bloodthirsty ethnic cleanser; a misogynistic, homophobic, racist, infanticidal, genocidal, filicidal, pestilential, megalomaniacal, sadomasochistic, capriciously malevolent bully (Dawkins, 2006, p. 31).

Control

Bram Stoker's Dracula is arguably the most unpleasant character in all fiction: jealous and proud of it; a petty, unjust, unforgiving control freak; a vindictive, bloodthirsty ethnic cleanser; a misogynistic, homophobic, racist, infanticidal, genocidal, filicidal, pestilential, megalomaniacal, sadomasochistic, capriciously malevolent bully.

Appendix B - Hell Prime & Control

Hell prime:

A geological group who drilled a hole about 14.4 kilometers deep in the crust of the earth are saying that they heard human screams. Screams have been heard from the condemned souls from earth's deepest hole. Terrified scientists are afraid they have let loose the evil powers of hell up to the earth's surface.

Dr. Azzacove continued, ". . .the drill suddenly began to rotate wildly, indicating that we had reached a large empty pocket or cavern. Temperature sensors showed a dramatic increase in heat to 2,000 degrees Fahrenheit. We lowered a microphone, designed to detect the sounds of plate movements down the shaft. But instead of plate movements we heard a human voice screaming in pain! The screams weren't those of a single human, they were the screams of millions of humans!"

Magma prime:

Using a combination of particle accelerators, X-rays, high-intensity lasers, diamonds, and iron atoms, scientists have worked out that the inner core of the Earth is actually 10,800 degrees Fahrenheit — some 2,000 degrees hotter than the previous estimates. This means the core of our Earth is actually hotter than the surface of the Sun.

From the outside in, the Earth consists of the crust, the upper mantle (solid), the mantle (mostly solid), the outer core (molten iron-nickel), and the inner core (solid iron-nickel). The outer core is molten due to very high temperatures, but the increased pressure at the center of the Earth means that the inner core is solid. The distance to the center of the Earth is 6,371 kilometers, the deepest we have ever drilled is just 12km deep.

Appendix C - Drink Instructions and Marketing Questions

Task Instructions

You will be given three drinks to taste today as part of a marketing study. You will be asked to assess taste of each as well as compare the three to one another. Please consider these things when you taste each.

Marketing Questions

Participants will be asked from the following questions:

- After each drink
 - How delicious did you find the drink?
1 not at all -- 7 very delicious
 - How disgusting did you find the drink?
1 not at all -- 7 very disgusting
 - How refreshing was this drink?
1 not at all -- 7 very refreshing
 - Would you prefer this drink to water on a hot day?
 - 1 would greatly prefer water
 - 2 would slightly prefer water
 - 3 no preference
 - 4 would slightly prefer this drink
 - 5 would greatly prefer this drink

Appendix D - Affect Thermometer

The PANAS

The scale consists of a number of words that describe different feelings and emotions. Reach me to each item and then Mark the appropriate answer in the space next to the word. Indicate to what extent [INSERT APPROPRIATE TIME INSTRUCTIONS HERE]. Use the following skill to record your answers.

1 very slightly or not at all	2 a little	3 moderately	4 quite a bit	5 extremely
	_____interested		_____irritable	
	_____distressed		_____alert	
	_____excited		_____ashamed	
	_____upset		_____inspired	
	_____strong		_____nervous	
	_____guilty		_____determined	
	_____scared		_____attentive	
	_____hostile		_____jittery	
	_____enthusiastic		_____active	
	_____proud		_____afraid	

Moment	(you feel this way right now, that is, at this present moment)
Today	(you have felt this way today)
Past few days	(you have felt this way during the past few days)
Week	(you have felt this way during the past weeks)
Past few weeks	(you have felt this way during the past few weeks)
Year	(you have felt this way during the past year)
General	(you generally feel this way, that is, how you feel on the average)

Appendix E - Religious Fundamentalism Scale

The Revised 12-Item Religious Fundamentalism Scale

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you *agree* with some of the statements, and *disagree* with others, to varying extents. Please indicate your reaction to each statement by blackening a bubble in SECTION 1 of the bubble sheet according to the following scale:

- Blacken the bubble labeled -4 if you very strongly disagree with the statement
-3 if you strongly disagree with the statement
-2 if you moderately disagree with the statement
-1 if you slightly disagree with the statement
- Blacken the bubble labeled +1 if you slightly agree with the statement
+2 if you moderately agree with the statement
+3 if you strongly agree with the statement
+4 if you very strongly agree with the statement

If you feel exactly and processing *neutral* about an item, blackened “0” bubble.

You may find that you sometimes have different reactions to different parts of the statement. For example, you might very strongly disagree (“-4”) with one idea in a statement, but slightly agree (“+1”) with another idea in the same item. When this happens please combine your reactions and write down how you feel on balanced (a “-3” in this case).

1. God has given humanity is complete, unfeeling guide to happiness and salvation, which must be totally followed.
2. No single book of religious teachings contains all the intrinsic, fundamental truths about life. ^a
3. The basic cause of evil in this world is Satan, who is constantly and ferociously fighting against God.
4. It is more important to be a good person into believing God and the right religion. ^a
5. There is a particular set of religious teachings in the world that are so true, you can’t go any “deeper” because they are the basic, bedrock message that God has given humanity.
6. When you get right down to it, there are basically only two kinds of people in the world: the Righteous, who will be rewarded by God; and the rest, I will not.
7. Scriptures may contain general truce, but they should NOT be considered completely, literally true from the beginning to end. ^a
8. To leave the best, most beautiful meaningful life, one must belong to one, fundamentally true religion.
9. “Satan” is just the name people give to their own that impulses. There is really *no such thing* as a diabolical “Prince of darkness” who tempts us. ^a
10. Whenever science and sacred Scripture conflict, *science* is probably right. ^a
11. The fundamentals of God’s religion should never be tempered with, or compromised with others’ beliefs.
12. *All* of the religions in the world have flaws and wrong teachings. There is *no* perfect true, right religion. ^a

^a indicated item is worded in the con-trait direction, for which the scoring is reversed.

Appendix F - Demographics

How old are you? _____

What is your sex/gender? _____

How would you describe your race/ethnicity?

- a) White/Caucasian
- b) African American
- c) Hispanic
- d) Native American
- e) Asian
- f) Mixed
- g) Other _____

We are interested in your political beliefs. Would you consider yourself more liberal or more conservative? Please select an option below:

- a) Very Liberal
- b) Liberal
- c) Mildly Liberal
- d) Moderate
- e) Mildly Conservative
- f) Conservative
- g) Very Conservative

What is your current religion?

- a) Christian (Catholic)
- b) Christian (Baptist)
- c) Christian (other)
- d) Buddhist
- e) Muslim
- f) Jewish
- g) None
- h) Atheist
- i) Agnostic
- j) Other: _____

How strongly do you believe in God (from 0-100)?

To clarify, if you are certain that God does not exist, please put "0" and if you are certain that God does exist, then put "100."

We are curious about your impressions of the study. Feel free to leave any feedback on these two questions.

1. Did anything seem odd about this study?
2. Please speculate what you think this study is about

Appendix G - R Code for Analyses

Reading in the Data File

```
FullTab = read.csv("Lemonade_Organized.csv", header = T)
CleanTab <- FullTab[ which(FullTab$Finished=='1'),]
summary(CleanTab)
```

Overall ANOVA

```
Overall <- ezANOVA( data = CleanTab
                    , dv = DrinkRating
                    , wid = Subject
                    , within = DrinkNum
                    , between = c('AtheistPass', 'HellPass')
                    , type = 3)

Overall
```

Planned Contrasts

```
## Convert wide form
wide <- reshape(Cleantab, v.names = c("DrinkRating")
                , idvar = "Subject"
                , timevar = c("DrinkNum")
                , direction = "wide")

wide

## Squish Dataframes
AtheistW <- subset(wide, AtheistPass == 'Atheist')
summary(AtheistW)
ControlW <- subset(wide, AtheistPass != 'Atheist')
summary(ControlW)

HellW <- subset(wide, HellPass == 'Hell')
summary(HellW)
MagmaW <- subset(wide, HellPass != 'Hell')
summary(MagmaW)

## Planned Contrast # 1
## Atheist Cond: Average Rating of 2nd Drink less than Average Rating of 1st
t.test(AtheistW$DrinkRating.first, AtheistW$DrinkRating.second, paired=TRUE)

## Planned Contrast # 2
## Second Drink: Average Rating of Atheist Cond less than rating in Contol Cond
```

```

t.test(ControlW$DrinkRating.second,AtheistW$DrinkRating.second)

## Planned Contrast # 3
## Atheist Cond: Average Rating of 3rd Drink more than Average Rating of 2nd
t.test(AtheistW$DrinkRating.third,AtheistW$DrinkRating.second,paired=TRUE)

## Planned Contrast # 4
## Third Drink: Average Rating of Atheist Cond more than rating in Contol Cond
t.test(ControlW$DrinkRating.third,AtheistW$DrinkRating.third)

## Planned Contrast # 5
## Atheist Cond + Third Drink: Average Rating higher in Hell condition than in Magma
Condition
t.test(HellWA$DrinkRating.third,MagmaWA$DrinkRating.third)

```

Affect ANOVAs

Negative Affect

```

ANOVA_NegAffect <- ezANOVA( data = CleanTab
                             , dv = NegAff
                             , wid = Subject
                             , within = DrinkNum
                             , between = c('AtheistPass', 'HellPass')
                             , type = 3)

ANOVA_NegAffect

```

Positive Affect

```

ANOVA_PosAffect <- ezANOVA( data = CleanTab
                             , dv = PosAff
                             , wid = Subject
                             , within = DrinkNum
                             , between = c('AtheistPass', 'HellPass')
                             , type = 3)

ANOVA_PosAffect

```

Beliefs GLM

```

BeliefDifs <- glm(Belief ~ AtheistPass * HellPass,
                  data = wide) ## wide = CleanTab in wide format instead of long
summary(BeliefDifs)

```

Plots

Overall Plot


```

### make table of means to produce graph
Taste = c(1,2,3,1,2,3,1,2,3,1,2,3)
First =
c("Control","Control","Control","Control","Control","Control","Atheist","Atheist","Atheist","
Atheist","Atheist","Atheist")
Second =
c("Hell","Hell","Hell","Magma","Magma","Magma","Hell","Hell","Hell","Magma","Magma","Magma")
Deliciousness = c(4.61,4.92,5.05,5.41,5.28,5.24,5.01,4.98,4.90,5.17,4.61,4.85)

dat2 = data.frame(Taste,First,Second,Deliciousness)
dat2

### graph it
ggplot(dat2, aes(x=Taste, y=Deliciousness, color = First, linetype=Second)) +
  geom_line(size=2) +
  scale_color_manual(values = c("black", "darkgrey")) +
  scale_x_discrete(breaks=c("1", "2", "3"), labels=c("First", "Second", "Third")) +
  coord_cartesian(ylim=c(4.5, 5.5)) +
  theme_bw()

```

Paneled Overall Plot

```

RatingsPlot = ezPlot (data = CleanTab
  , dv = DrinkRating
  , wid = Subject
  , within = DrinkNum
  , between = c('AtheistPass', 'HellPass')
  , type = 3
  , x = DrinkNum
  , split = AtheistPass
  , col = HellPass
  , x_lab = 'Drink'
  , y_lab = 'Delicious Ratings'
  , split_lab = 'Priming Condition'
)

```

Aggregate Overall Plot

```

## Deliciousness Composit
Taste = c(1,2,3,1,2,3,1,2,3,1,2,3)
First =
c("Control","Control","Control","Control","Control","Control","Atheist","Atheist","Atheist","
Atheist","Atheist","Atheist")
Second =
c("Hell","Hell","Hell","Magma","Magma","Magma","Hell","Hell","Hell","Magma","Magma","Magma")
Deliciousness_Agg = c(4.65,4.68,4.80,5.18,4.91,4.91,4.94,4.97,4.81,4.96,4.62,4.74)

```

```

dat = data.frame(Taste,First,Second,Deliciousness_Agg)
dat

### graph it
ggplot(dat, aes(x=Taste, y=DeliciousnessAgg, color = First, linetype=Second)) +
  geom_line(size=2) + ##umadbro
  scale_color_manual(values = c("black", "darkgrey")) +
  scale_x_discrete(breaks=c("1", "2", "3"), labels=c("First", "Second", "Third")) +
  coord_cartesian(ylim=c(4.5, 5.5)) +
  theme_bw()

```

Negative Affect Plot

```

NegAffPlot = ezPlot (data = CleanTab
  , dv = NegAff
  , wid = Subject
  , within = DrinkNum
  , between = c('AtheistPass', 'HellPass')
  , type = 3
  , x = DrinkNum
  , split = AtheistPass
  , col = HellPass
  , x_lab = 'Drink'
  , y_lab = 'Delicious Ratings'
  , split_lab = 'Priming Condition'
)

```

Positive Affect Plot

```

PosAffPlot = ezPlot (data = CleanTab
  , dv = PosAff
  , wid = Subject
  , within = DrinkNum
  , between = c('AtheistPass', 'HellPass')
  , type = 3
  , x = DrinkNum
  , split = AtheistPass
  , col = HellPass
  , x_lab = 'Drink'
  , y_lab = 'Delicious Ratings'
  , split_lab = 'Priming Condition'
)

```

Gender Effects

Set up

```
Females <- subset(CleanTab, Female == 1)
summary(Females)
Males <- subset(CleanTab, Female != 1)
summary(Males)
```

Females Plot

```
RatingsPlot_Females = ezPlot (data = Females
                               , dv = DrinkRating
                               , wid = Subject
                               , within = DrinkNum
                               , between = c('AtheistPass', 'HellPass')
                               , type = 3
                               , x = DrinkNum
                               , split = AtheistPass
                               , col = HellPass
                               , x_lab = 'Drink'
                               , y_lab = 'Delicious Ratings'
                               , split_lab = 'Priming Condition'
                               )
```

Males Plot

```
RatingsPlot_Males = ezPlot (data = Males
                              , dv = DrinkRating
                              , wid = Subject
                              , within = DrinkNum
                              , between = c('AtheistPass', 'HellPass')
                              , type = 3
                              , x = DrinkNum
                              , split = AtheistPass
                              , col = HellPass
                              , x_lab = 'Drink'
                              , y_lab = 'Delicious Ratings'
                              , split_lab = 'Priming Condition'
                              )
```

Replication Comparisons

Trimming to Drinks 1 & 2

```
Drinks12 <- subset(CleanTab, DrinkNum != "third")
summary(Drinks12)
```

Replication ANOVA

```
Preston <- ezANOVA( data = Drinks12
                    , dv = DrinkRating
                    , wid = Subject
                    , within = DrinkNum
                    , between = c('AtheistPass')
                    , type = 3)

Preston
```

Replication Plot

```
PrestonPlot = ezPlot (data = Drinks12
                      , dv = DrinkRating
                      , wid = Subject
                      , within = DrinkNum
                      , between = c('AtheistPass')
                      , type = 3
                      , x = DrinkNum
                      , split = AtheistPass
                      , x_lab = 'Drink'
                      , y_lab = 'Delicious Ratings'
                      , split_lab = 'Priming Condition'
                      )

PrestonPlot
```

References

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VITA

Maxine Belén Najle

EDUCATION

University of Central Florida 2013
B.S., Psychology (Honors & Honors in the Major)
Summa Cum Laude
Honors Thesis: *Atheists, Devils, and Communists: Cognitive mapping of attitudes towards atheists*
B.A., English Literature (Honors)
Summa Cum Laude
Minors: Cognitive Sciences and Religious Studies

SCHOLASTIC AND PROFESSIONAL HONORS

Student Travel Award (2015)
• Society For Personality and Social Psychology (SPSP) 16th Annual Convention
• \$500
Daniel R. Reedy Quality Achievement Award (2013-2015)
• \$3,000/year
Psychology Department Scholarship (2013-2014)
• \$3,000
Graduate School Academic Year Fellowship (2013-2014)
• \$15,000
Florida Bright Futures Scholar (2008-2013)
• Florida Academic Scholars Award
• Awards 100% in-state tuition
• \$12,165 Combined
National Hispanic Scholarship (2008-2012)
• Awarded through UCF to National Hispanic Scholars
• 4-year scholarship
• \$36,000 Combined

PROFESSIONAL POSITIONS

Research Assistant August 2013 - Present
Belief and Morality Lab, University of Kentucky
Advisor: Will Gervais, Ph.D.

PROFESSIONAL PUBLICATIONS

Gervais, W. M., Jewell, J. A., **Najle, M. B.**, & Ng, B. K. L. (2015). A Powerful Nudge? Presenting Logical Consequences of Underpowered Research Shifts Incentives Towards Adequately Powered Designs. *Social Psychology and Personality Science*.

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